

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
SEMICONDUCTOR ENERGY LABORATORY  
CO., LTD.

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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing (day/month/year)	26.07.2005
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Applicant's or agent's file reference  
00000PCT7824

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
PCT/JP2005/007115

International filing date (day/month/year)  
06.04.2005

Priority date (day/month/year)  
09.04.2004

International Patent Classification (IPC) or both national classification and IPC  
Int.Cl.<sup>7</sup> H01L27/12, G06K19/07, 19/077, H01L21/822, 27/04, 29/786

Applicant  
SEMICONDUCTOR ENERGY LABORATORY CO., LTD.

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Date of completion of this opinion	11.07.2005
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Name and mailing address of the ISA/JP

**Japan Patent Office**

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/007115

**Box No. I      Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/007115

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims	3-6, 9-13	YES
	Claims	1, 2, 7, 8	NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

**2. Citations and explanations**

D1: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 033140/1977 (Laid-open No. 126567/1978) (SANYO ELECTRIC CO., LTD.), 1978.10.07, WHOLE DOCUMENT, FIG. 5 FAMILY: NONE

D2: US 2002/0195648 A1 (HIRATA) 2002.12.26, WHOLE DOCUMENT, FIGS. 1-14 & JP 2003-7833 A

D3: WO 2000/044049 A1 (SEIKO EPSON CORPORATION) 2000.07.27, WHOLE DOCUMENT, FIGS. 5, 19 & US 6671146 B1

D4: JP 2001-250097 A (HITACHI LTD.) 2001.09.14 WHOLE DOCUMENT, FIG. 2, & KR 2001088275 A

[Claim 1]

The subject matter of claim 1 does not appear to be novel with respect to D1 cited in the ISR. The subject matter of claim 1 is disclosed in D1.

[Claims 1, 2, 7, 8]

The subject matter of claims 1, 2, 7, 8 does not appear to be novel with respect to D2 cited in the ISR. The subject matter of claims 1, 2, 7, 8 is disclosed in D2.

[Claims 2-6, 8, 9]

The subject matter of claims 2-6, 8, 9 does not appear to involve an inventive step in view of the D1, D3.

The person skilled in the art could readily consider that the transistor having floating gate disclosed in D1 is applied to the invention disclosed in D3.

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PCT/JP2005/007115

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box No. V

[Claims 7,10-13]

The subject matter of claim 7 does not appear to involve an inventive step in view of the D1.

The subject matter of claims 10-13 does not appear to involve an inventive step in view of the D1,D3,D4.

It is not special device in which the pulse generation circuit is connected to the transistor having floating gate by the connecting terminal so as to control the charge amount of the floating gate.

And RFID having the limiter circuit for over-voltage protection is well-known, as disclosed in D4.